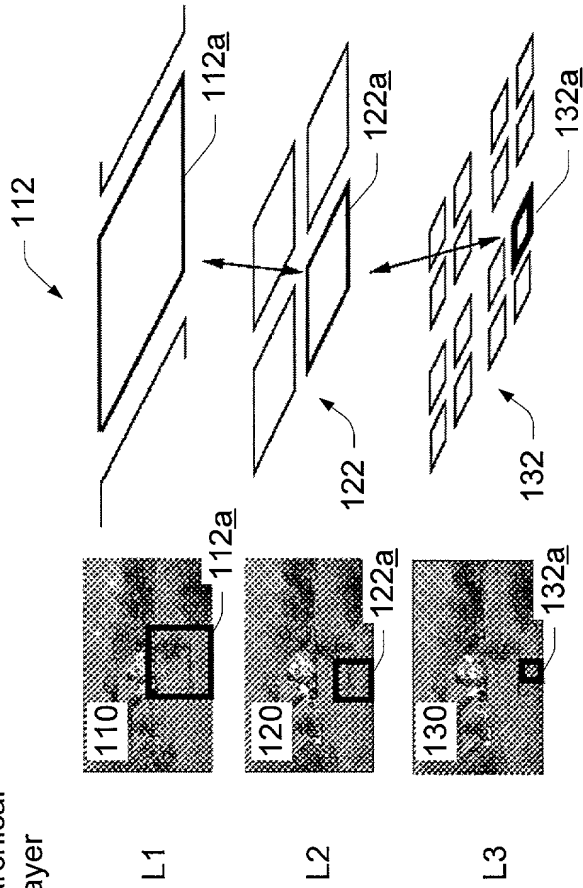Heirarchical
Layer

L1
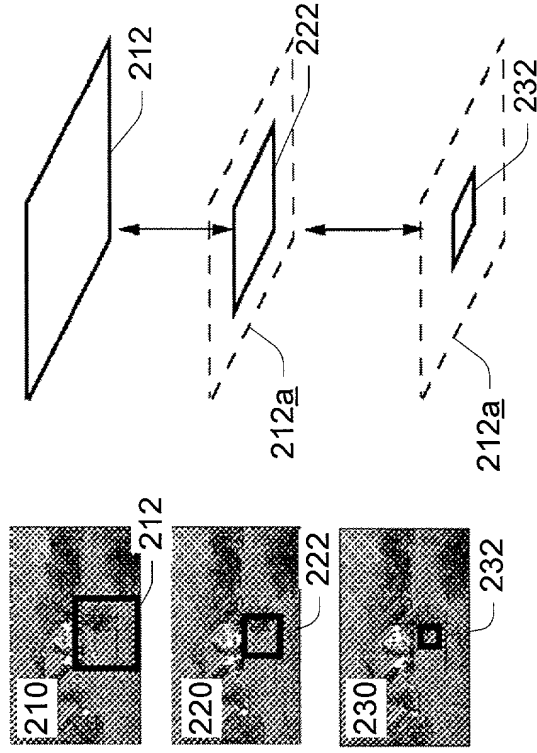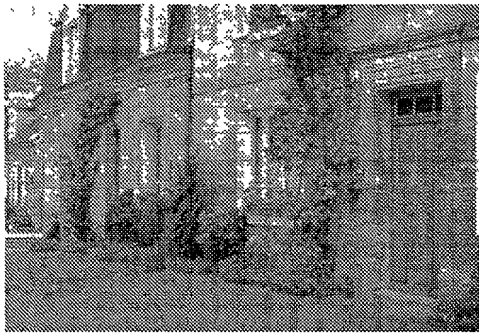
L2

L3
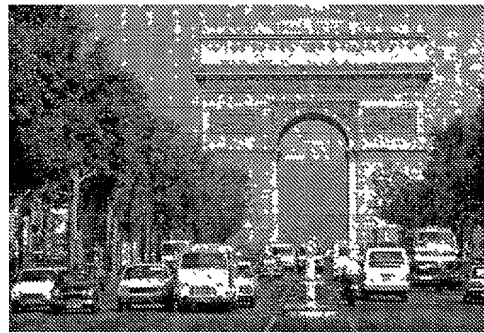
Quad-Tree Approach (100)

High-Resolution Approach (200)

Fig. 1

Original Image A (300)

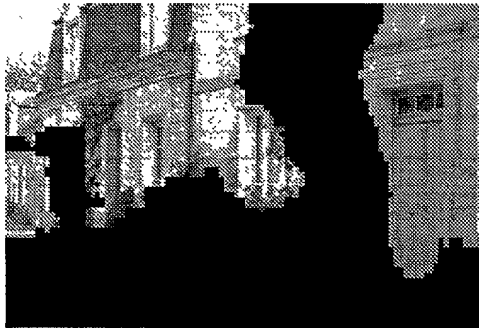Original Image B (400)
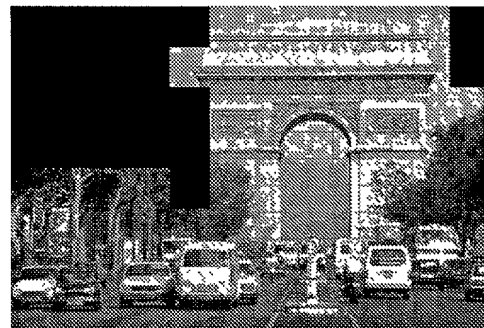
High-resolution segmention of
Image A (310)

High-resolution segmention of
Image B (410)

Quad-tree segmention of
Image A (320)

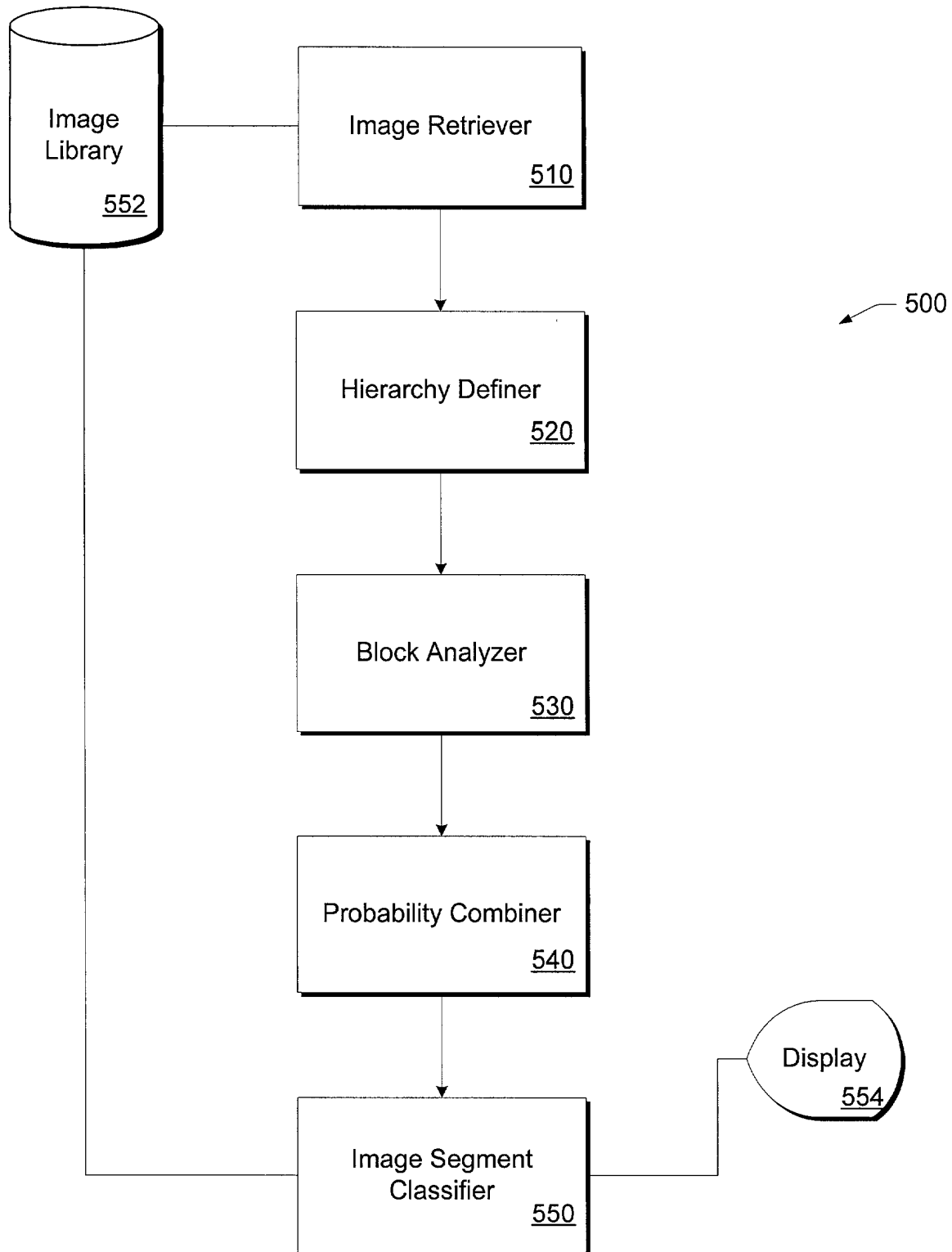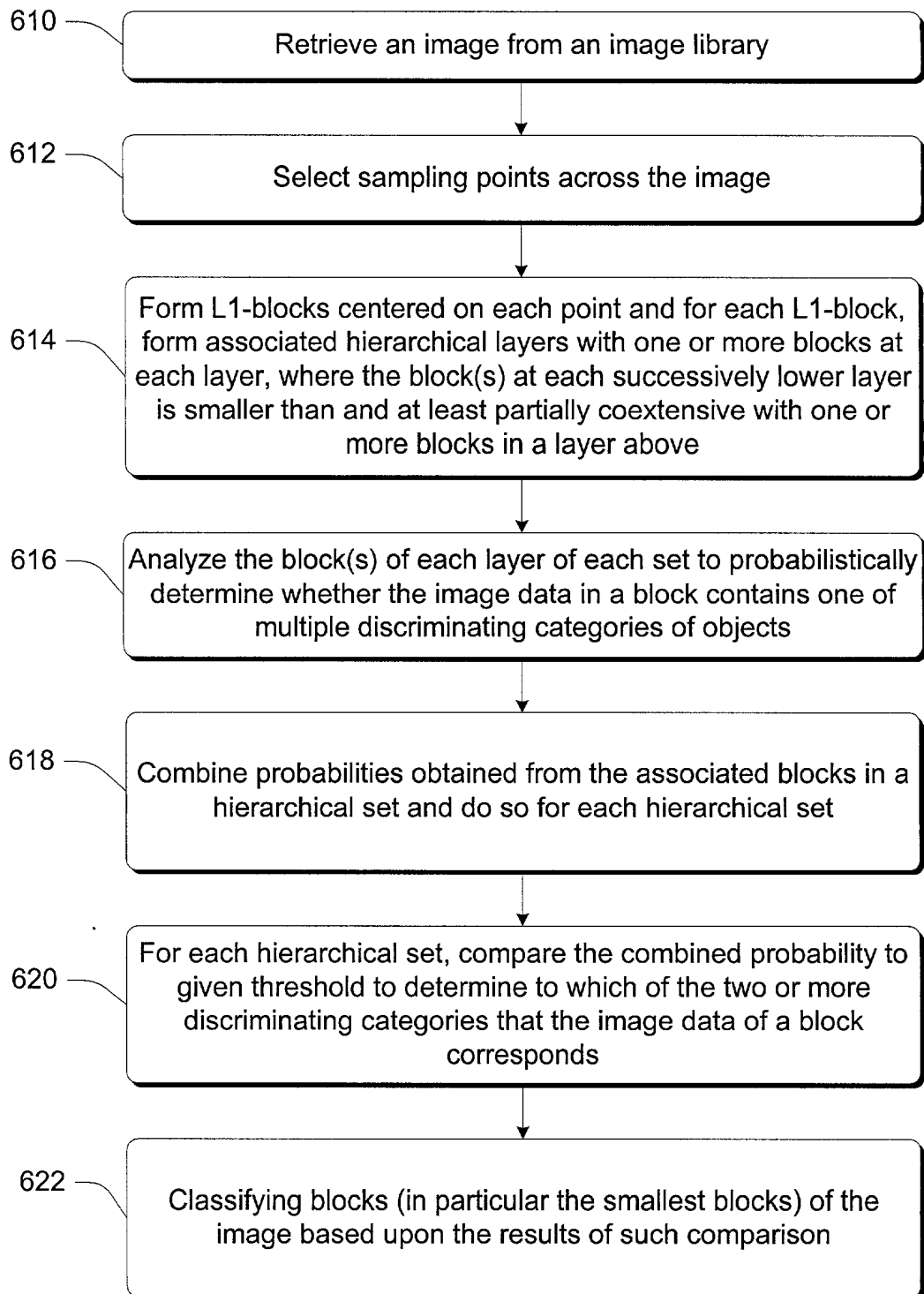Quad-tree segmention of
Image B (420)

Fig. 2

Image Library

552

Image Retriever

510

Hierarchy Definer

520

Block Analyzer

530

Probability Combiner

540

Image Segment Classifier

550

Display

554

500

Fig. 3

610 — Retrieve an image from an image library

612 — Select sampling points across the image

614 — Form L1-blocks centered on each point and for each L1-block, form associated hierarchical layers with one or more blocks at each layer, where the block(s) at each successively lower layer is smaller than and at least partially coextensive with one or more blocks in a layer above

616 — Analyze the block(s) of each layer of each set to probabilistically determine whether the image data in a block contains one of multiple discriminating categories of objects

618 — Combine probabilities obtained from the associated blocks in a hierarchical set and do so for each hierarchical set

620 — For each hierarchical set, compare the combined probability to given threshold to determine to which of the two or more discriminating categories that the image data of a block corresponds

622 — Classifying blocks (in particular the smallest blocks) of the image based upon the results of such comparison

Fig. 4

Fig. 5